

REMARKS

Applicants submit that the amendments made herein are fully supported in the present specification as filed and add no new matter. Further, the amendments made herein address issues that are first raised in the outstanding Office Action (e.g., the new rejection under 35 U.S.C. § 112, first paragraph) and were not made earlier. The first indication to Applicants that the present amendments would be needed was in the outstanding Office Action. Therefore, entry of the present amendment is proper and is respectfully requested.

In the alternative, if the Examiner continues with the rejections of the present application, it is respectfully requested that the present Request for Reconsideration be entered for purposes of an Appeal. The Request for Reconsideration reduces the issues on appeal by overcoming at least the rejections under 35 U.S.C. § 112, first paragraph and § 112, second paragraph. Thus, the issues on appeal would be reduced.

Status of Claims

In the instant Request for Reconsideration, claims 1, 2, 13 and 14 have been amended and claim 28 has been added. Also, claims 12, 18, 26 and 27 have been canceled without prejudice or disclaimer of the subject matter contained therein. Thus, claims 1, 2, 6, 7, 11, 13, 14, 16, 17, 19, 20, 22-24 and 28 are pending in the above-identified application and stand ready for further action on the merits.

The amendments made to claims 1, 2, 13 and 14 do not add new matter. The amendment to claim 13 is editorial in nature. The amendments to the independent claims are supported by the present specification (see Patent Application Publication No. US 2006/0102306 A1) in

paragraphs [0089] (for the weight ratio), [0103], [0106], and the Examples (e.g., paragraph [0125] which refers to surfactant (B) being added to an aqueous solution containing copolymer (A)).

New claim 28 has support in paragraph [0106]. Thus, no new matter has been added with this new claim.

Accordingly, entry of the instant amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues under 35 U.S.C. § 112, First Paragraph

Claims 26 and 27 stand rejected under 35 U.S.C. § 112, first paragraph for asserted lack of written description (see Office Action at pages 3-4). Applicants respectfully traverse.

Regarding claim 26, this claim has been canceled thereby rendering this rejection moot.

Regarding claim 27, Applicants respectfully traverse (such subject matter now appears in the independent claims). There is support in the written description for adding component (B) to an aqueous solution having component (A). For instance, Applicants note paragraph [0103] as well as paragraph [0125] which is a part of the Examples. Paragraph [0125] refers to surfactant (B) being added to an aqueous solution containing copolymer (A)). This is an actual example. Furthermore, though the Examiner states that no specific order is given, Applicants note there are only so many possible choices (component (A) is added before (B); component (B) is added before (A)). In addition, Applicants respectfully submit that the proper perspective for this issue under § 112, first paragraph, is from one having skill in the art. In fact, an exact, verbatim

description is not necessary. *See Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). Still, there is an actual description in the Examples (e.g., paragraph [0125]) of the specification.

Based on the above, Applicants respectfully request withdrawal of the rejection of claim 27.

Issues under 35 U.S.C. § 112, Second Paragraph

Claims 1, 2, 6, 7, 11-14, 16-20, 22-24, 26 and 27 stand rejected under 35 U.S.C. § 112, second paragraph for asserted lack of definiteness (see Office Action at pages 4-5). Applicants respectfully traverse.

Applicants respectfully refer the Examiner to the independent claims as shown herein. The papermaking step is further defined by paragraph [0106] of the present specification. Further, based upon a closer reading of the present specification, it is clear that the paper quality improver is added before the step of making the paper. The number of possible locations when adding components (A) and (B) are not so great as stated in the Office Action.

Also, the asserted redundancy in claims 1, 2 and 14 have been sufficiently addressed (see the pending claims as shown herein).

Regarding claim 26, this claim has been canceled thereby rendering the rejection of this claim moot.

Reconsideration and withdrawal of this rejection are respectfully requested.

Issues under 35 U.S.C. § 103(a)

Claims 1, 2, 6, 7, 11-14, 14, 16-20, 22-24, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Zhang et al. '268** (U.S. Patent No. 6,417,268) in view of Fallon '380 (U.S. Patent No. 5,571,380) as evidenced by **Biale '096** (U.S. Patent No. 3,714,096), **Xiao et al. '392** (US 5,747,392) and **Smook** (*Handbook for Pulp and Paper Technologists*) (see pages 5-10 and 2-3 of the outstanding Office Action). Reconsideration and withdrawal of this rejection are respectfully requested based on the following considerations.

A proper analysis under § 103(a) requires consideration of four *Graham* factors: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467. Here, Applicants respectfully submit that a resolution of the first two *Graham* factors lies in Applicants' favor.

First, Applicants note that claims 1, 2 and 14 have been amended to recite: "wherein a mixture of the copolymer (A) and the surfactant (B) is prepared by adding surfactant (B) to an aqueous solution of copolymer (A)."

Second, the cited combination of references fails to disclose such a feature. In particular, **Zhang et al. '268** discloses using its surfactant in or to make a monomer solution for purposes of polymerization ("to produce the HAP in a dispersion") (see, e.g., column 4, line 62 to column 5, line 9). However, in the present invention, the surfactant (B) is added to an aqueous solution having copolymer (A) after the polymer is formed. In other words, there is a change in function of the cited primary reference when compared to the present invention. Thus, there is no reason

or rationale to combine the cited references in an effort to achieve what is instantly claimed, and a proper *Graham* analysis resides in Applicants' favor.

Applicants note another distinction. In Zhang *et al.* '268, surfactants are used together for polymerization of monomers (see column 2, lines 5-17), whereby it is considered that homogenous particle dispersion with a bulk viscosity below 3000 cp can be obtained (see column 1, line 66 to column 2, line 4). In contrast, the present invention is directed to a technology such that the effect is exerted when the paper is made by using surfactants and polymers obtained by polymerization. By interaction between the copolymer (A) and the surfactant (B), the copolymer (A) is uniformly distributed on and absorbed by the pulp surface even under high-shear conditions (see paragraph [0045] of the published application). It is not the purpose of the present invention wherein surfactants are used for making polymer particle (A). Thus, despite the Examiner's assertion of analogous arts (see Office Action at page 8, starting at line 8), Applicants note that the citation of Zhang *et al.* '268 itself is improper. The Zhang *et al.* '268 surfactants are used together for polymerization of monomers.

There are also other distinctions over the cited combination of references.

For instance, the cited combination does not disclose the same paper quality composition as claimed. This also means that the paper quality improving effects of the present invention (e.g., "(i) standard improved bulky value: 0.02 g/cm³ or more") are not disclosed or taught by the cited combination of references (see the paragraph bridging pages 7-8 of the Office Action).

Also, at page 6 of Office Action, the Examiner states that in Zhang *et al.* '268 the (meth)acrylate ester is present in an amount up to 10 mole percent. However, the Examples of Table 1, 2 and 4 of Zhang *et al.* '268 use 0.1 to 0.75 mole % of monomer (I), wherein such

amounts are far less amount than this 10 mole %. Also, in contrast to Zhang *et al.* '268, in order for the present invention to exert a higher performance, Applicants have claimed a certain amount of monomer content. Thus, there exist significant differences between the claimed invention and the disclosure of Zhang *et al.* '268. Further, the citation of *In re Best* at page 7 of the Office Action is inapplicable and improper as, e.g., Zhang *et al.* '268 and the present invention are not directed to substantially the same composition.

The citation of Fallon '380 does not account for such deficiencies of Zhang *et al.* '268 and is thus improper. Applicants note how Fallon '380 is used as stated in the Office Action at page 8, lines 4-18. The Examiner specifically refers Applicants to column 1, lines 14-42 of Fallon '380. However, Fallon '380 also does not disclose the instantly claimed amount of nonionic monomer having a solubility parameter of 20.5 (MPa)^{1/2} or less. Thus, Fallon '380 does not account for the deficiencies of the primary reference, and this rejection is improper.

Applicants also traverse other comments in the Office Action. There are several instances in the Office Action that a process step or ingredient is "well-known," "functionally equivalent," and/or "typical" (see, e.g., the Office Action at page 8, lines 9-16; page 9, lines 8-10; page 9, lines 16-17; etc.). Applicants take strong issue with the Examiner's reliance upon what essentially amounts to "official notice" as a basis for rejecting elements of the claims. Applicants direct the Examiner's attention to MPEP § 2144.03(A) which states: "While 'Official Notice' may be relied on, these circumstances *should be rare* when an application is *under final rejection*." The present application is under final rejection. Moreover, even if the Examiner has properly taken "official notice," there must be some form of evidence (besides the cited references) on the record to support such an assertion of common knowledge (see Office Action

at page 8, lines 9-16). In this regard the Examiner is respectfully requested to refer to *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (holding that general conclusions concerning what is “basic knowledge” or “common sense” to one of ordinary skill in the art without specifying factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).

Also, no evidence has been provided in several, relevant parts of the Office Action. For instance, Applicants note page 10, lines 8-10, wherein no evidence has been provided to support the conclusion of obviousness against pending claims 26 and 27. In this regard, the rationale for making a case of obviousness has to be made explicit, *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007), and the Examiner must interpret the reference as a whole and cannot pick and choose only those selective portions of the reference which support the Examiner’s position. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988) (“One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.”).

Alternatively, if the Examiner is relying upon personal knowledge to support the finding of what is known in the art, the Examiner is respectfully requested to provide an affidavit or declaration setting forth specific factual statements and explanations to support such a finding. In this regard the Examiner is referred to 37 C.F.R. § 1.104(d)(2).

Further, it is respectfully submitted that the present claims are patentably distinct over the cited combination of the Zhang *et al.* ‘268 and Fallon ‘380 references, despite the further citation of Biale ‘096, Xiao *et al.* ‘392 and Smook as evidence. In fact, Applicants disagree with the citation of Biale ‘096, Xiao *et al.* ‘392 and Smook as “evidence”. For instance, Smook is used

as stated in the Office Action at page 9, lines 16-17. However, it appears that the patentability of claim 13 has not been specifically analyzed, and only a textbook reference has been cited as accounting for the specific feature of this claim in combination with the base claim. As another instance Biale '096, which is cited in the Office Action at page 3, line 10, is not even in an analogous art with the present invention. Also, it appears that these references are actually a part of the rejection and not merely used as "evidence."

Furthermore, in forming the instant rejection, the Examiner states in the paragraph bridging pages 6-7 of the Office Action that the A/B ratio between components (A) and (B) "can be calculated to be from 150/1 to 1/1.5, which significantly overlays the claimed range." However, it is improper to calculate the ratio in this fashion since the Zhang *et al.* '268 disclosure is incomplete to make such calculations.

Specifically, there is the possibility that something was removed from the polymerization solutions of Polymer IV of Examples 2 and 5 of Zhang *et al.* '268 (the Examiner cites these examples in the paragraph bridging pages 6-7 of the outstanding Office Action) because the solution was filtered through a Caisson screener (as described at column 12, lines 59-61). Applicants note Example 2, wherein the total sum of the amount of starting materials is 562.2 g. This total is calculated as follows (see also column 12, lines 14-30 of Zhang *et al.* '268):

Deionized water	240 g
Galactasol gum	1.2 g
Ammonium sulfate	60 g
Acrylamide (53% aq.)	55.4 g
Acrylic Acid (99%)	30.1 g
Sodium Lauryl Sulfate (98%)	4.5 g
Lauryl Acrylate (90%)	0.5 g
EDTA	0.25 g
Summation	562.2 g

Further, the sum of monomers is 59.611 g which is calculated as follows (see column 12, lines 22-26 of Zhang *et al.* '268):

		Active
Acrylamide (53%aq.)	55.4g	29.362
Acrylic Acid (99%)	30.1g	29.799
<u>Lauryl Acrylate (90%)</u>	<u>0.5g</u>	<u>0.45</u>
Summation		59.611g

In the case that all of the monomers are perfectly reacted, or the active content is maximized, the active content is calculated to be 10.6% (= 59.611/562.2 (100)). The 10.6% calculation is different from the 15% of Table 5 (column 14 of Zhang *et al.* '268). Thus, it is likely that something was removed from the polymerization solution when the solution was filtered through the Caisson screener. Therefore, it is improper to calculate the ratio of the copolymer (A) and the surfactant (B) based on the amount of surfactant (B) *before* the filtration (as done in the outstanding Office Action at page 7, lines 2-4).

Applicants also note Example 5 of Zhang *et al.* '268, which discloses that 15% (NH₄)SO₄ was used (column 14, line 48). Assuming that the actual/net amount of (NH₄)SO₄ is the same as that of Example 2, the active content of the polymer VI (of Example 5) must have been less than that of polymer III/IV (of Example 2) because of the water included in a 15% (NH₄)SO₄ solution.

This means that the active content of the polymer III/IV (Example 2) must have been more than 15%.

Applicants also note that when all of the monomers are perfectly reacted, in calculating the ratio of the copolymer (A) and the surfactant (B), the ratio will be $93/7$ ($= 59.611/4.5$ (0.98%)), which is outside of instantly claimed range of 85/15 to 15/85. This is an additional distinction over the cited combination of references.

Thus, for several reasons, the combination of Zhang *et al.* '268 and Fallon '380, as evidenced by Biale '096, Xiao *et al.* '392 and Smook is improper. A resolution of the *Graham* factors resides in Applicants' favor, and there is no reason or rationale to make the cited combination of references. Based on the above, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

In view of the above remarks, it is believed that claims are allowable. A Notice of Allowability is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Eugene T. Perez (Reg. No. 48,501) at the telephone below to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No. 10/521,568

Docket No.: 0425-1171PUS1

Art Unit 1791

After Final Office Action of January 7, 2008

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: MAY 05 2008

Respectfully submitted,

By 

John W. Bailey

Registration No.: 32,881

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road, Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant